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4.6 TRANSPORTATION AND CIRCULATION

INTRODUCTION

The Transportation and Circulation section of this EIR describes the potential transportation and circulation impacts associated with the development of the proposed Lodi ProStyle Sports Complex. The analysis focuses on potential impacts to the roadway, transit, bicycle, and pedestrian systems in the vicinity of the project site. Mitigation measures are identified to offset any impacts deemed significant.

This section includes three parts. The first two parts are the environmental and regulatory settings. The environmental setting describes the existing transportation system in the vicinity of the project site and the regulatory setting describes the policies and objectives of adjacent jurisdictions that apply to the project. The third part describes the transportation impact analysis followed by the identification of significant project impacts and mitigation measures to reduce their significance.

IMPACTS EVALUATED IN OTHER SECTIONS

The following items are related to the Transportation and Circulation section, but are evaluated in other sections of this document.

- Air Quality. Potential air quality impacts resulting from traffic are addressed in the Air Quality section.

- Noise. Potential traffic-related noise impacts are addressed in the Noise section.

AFFECTED ENVIRONMENT (SETTING)

The project site is located approximately seven miles west of central Lodi between Thornton Road and Interstate 5, two miles south of State Route 12, and two miles north of Eight Mile Road. (See Figure 3-1 and 3-2). The existing transportation system in the vicinity of the project site consists primarily of roadways. A detailed description of the roadways in the study area is provided below and followed by discussions relative to other modes, including transit, bicycles, and pedestrians.

Roadway System

The following describes the major roadways in the study area:

Interstate 5 (I-5) is a north-south interstate freeway that extends from Southern California into Oregon and Washington. I-5 has six lanes in the immediate vicinity of the project site

and four lanes north of State Route 12. Access to/from I-5 in the study area is provided by interchanges at Eight Mile Road and State Route 12.

State Route 12 (SR 12) is an east-west state highway that extends from west of Interstate 80 (in Fairfield) to the City of Lodi and beyond. SR 12 has one lane in each direction with turn pockets at major intersections between Thornton Road and Lower Sacramento Road. This segment has a posted speed limit of 55 miles per hour (mph) with standard lane and shoulder widths. East of Lower Sacramento Road, SR 12 widens to four lanes and becomes West Kettleman Lane. SR 12 has two lanes in each direction from Thornton Road to west of I-5 and one lane in each direction further west. The I-5/SR 12 interchange consists of northbound and southbound diagonal ramps and a southbound loop on-ramp.

Thornton Road is a north-south arterial street that extends from the City of Stockton through unincorporated San Joaquin County into Sacramento County. Thornton Road is a two-lane rural roadway between SR 12 and Eight Mile Road. This segment has a prima facie speed of 55 mph (no speed limit signs are posted). Thornton Road has 10- to 12-foot wide travel lanes with limited or no shoulders along the frontage of the project site.

Eight Mile Road is an east-west arterial that extends from west of I-5 to State Route 99 and beyond. Eight Mile Road has one lane in each direction from east of I-5 to beyond Davis Road. This segment has a prima facie speed of 55 mph (no speed limit signs are posted). The I-5/Eight Mile Road interchange is a "tight-diamond" configuration consisting of diagonal ramps with a single travel lane in each direction under the I-5 overcrossing.

Davis Road is a north-south arterial street that extends from the City of Stockton north through unincorporated San Joaquin County. Davis Road is a two-lane rural roadway between SR 12 and Eight Mile Road. This segment has a prima facie speed of 55 mph (no speed limit signs are posted).

DeBroggi Road is a collector street that extends east from Thornton Road and then north to SR 12 where it becomes Flag City Boulevard. This roadway has one travel lane in each direction and a posted speed limit of 25 mph. It is sufficiently wide to allow on-street truck parking on either side.

The study area consists of primarily agricultural and rural residential uses with the exception of the Flag City Development located in the southeast quadrant of the SR 12/Thornton Road intersection. The Flag City Development, which is not yet built out, operates as a truck stop with several retail/restaurant establishments that draw motorists and truckers from I-5. The majority of uses in Flag City are accessed from Thornton Road.

A Caltrans Park-and-Ride lot exists in the southwest quadrant of the SR 12/Thornton Road intersection. The driveway serving the lot is located on Thornton Road.

Intersection Operations

The intersections of the study roadways are a key component of the roadway system. These are the "nodes" that connect each segment of the system.

Intersections are usually the critical elements of the roadway system in assuring adequate capacity, minimizing delays, maximizing safety, and minimizing environmental impacts. Therefore, the analysis of project impacts on the roadway system focuses on intersection operations.

The operating condition of an intersection is typically described in terms of "Level of Service" (LOS). LOS is a quantitative measurement of the effect of various factors on traffic operating conditions, including travel speed, travel time, delay, freedom to maneuver, safety, driving comfort, and convenience. LOS is measured on a qualitative scale ranging from LOS A (the best) to LOS F (the worst). Empirical LOS criteria and methods of calculation have been developed by the Transportation Research Board (TRB) and are documented in the *Highway Capacity Manual (HCM)*, Special Report 209, Third Edition, 1998. These LOS definitions and calculation methods are the prevailing measurement standard used throughout the United States and are used in this study.

The LOS at signalized and all-way stop-controlled intersections is based on the average control delay for all vehicles passing through the intersection. The 1998 HCM specifies that the LOS for minor-street stop-controlled intersections be based on the delay for vehicles on the minor-street approach only. Table 4.6-1 displays the average delay range for each LOS category for signalized and unsignalized intersections.

Table 4.6-1

Intersection Level of Service (LOS) Criteria

	Unsignalized Intersections		Signalized Intersections	
LOS	Description	Average Delay (sec/veh)	Description	Average Delay (sec/veh)
A	Little or no conflicting traffic for minor street approach.	≤ 10.0	Uncongested operations; all queues clear in a single cycle.	≤ 10.0
B	Minor street approach begins to notice presence of available gaps.	10.1 – 15.0	Very light congestion; an occasional phase is fully utilized.	10.1 – 20.0
C	Minor street approach begins experiencing delay while waiting for available gaps.	15.1 – 25.0	Light congestion; occasional queues on approaches.	20.1 – 35.0
D	Minor street approach experiences queuing due to a reduction in available gaps.	25.1 – 35.0	Significant congestion on critical approaches, but intersection is functional.	35.1 – 55.0
E	Extensive minor street queuing due to insufficient gaps.	35.1 – 50.0	Severe congestion with some longstanding queues on critical approaches.	55.1 - 80.0

Table 4.6-1

Intersection Level of Service (LOS) Criteria

	Unsignalized Intersections		Signalized Intersections	
F	Insufficient gaps of sufficient size to allow minor street traffic to safely cross through major traffic stream.	> 50.0	Total breakdown, stop-and-go operation.	> 80.0

Source: *Highway Capacity Manual* (TRB, 1998)

Project impacts were analyzed during the weekday p.m. peak and Saturday peak periods. Fehr & Peers Associates performed traffic counts from 4:00 to 6:00 p.m. on Tuesday, October 24, 2000 and from 11:30 a.m. to 1:30 p.m. on Saturday, May 5, 2001 at the following 14 intersections in the vicinity of the project site. These intersections were selected for analysis based on the expected directionality of trips generated by the project and input received from the City of Lodi.

1. SR 12/I-5 Southbound Ramps;
2. SR 12/I-5 Northbound Ramps;
3. SR 12/Thornton Road;
4. SR 12/Flag City Boulevard;
5. SR 12/Ray Road;
6. SR 12/Davis Road;
7. SR 12/West Kettleman Lane/Lower Sacramento Road;
8. Thornton Road/Capitol Avenue;
9. Thornton Road/DeBroggi Road;
10. Thornton Road/DeVries Road;
11. Eight Mile Road/I-5 Southbound Ramps;
12. Eight Mile Road/I-5 Northbound Ramps;
13. Eight Mile Road/Thornton Road; and
14. Eight Mile Road/Davis Road.

Figure 4.6-1 displays the existing lane configurations and traffic control devices at each intersection. As shown, the SR 12/Lower Sacramento Road intersection is signalized, while the SR 12/Thornton Road, Eight Mile Road/Thornton Road, and Eight Mile Road/Davis Road intersections consist of all-way stop-control. The remaining ten study intersections feature stop-control on the minor-street approach.

Figure 4.6-1 also displays the weekday p.m. peak hour and Saturday peak hour traffic volumes at each intersection. These volumes include both passenger vehicles and trucks. To identify the percentage of vehicles that are trucks (defined as large 2-axle delivery trucks and 3 or more axle trucks) within the study area, "truck-only" counts were performed at the SR 12/Thornton Road and Eight Mile Road/Thornton Road intersections. Table 4.6-2 summarizes the count results.

During the weekday p.m. peak hour, truck traffic constitutes between 12 and 14 percent of all traffic on the eastbound SR 12 and northbound Thornton Road approaches to the SR 12/Thornton Road intersection. A large percentage of trucks on these approaches is attributable to the Flag City Development, which functions as a truck stop. Trucks represent about two percent of all traffic at the Eight Mile Road/Thornton Road intersection during the weekday p.m. peak hour.

Due to the effect trucks have on intersection capacity, the intersection level of service computations explicitly considered the proportion of trucks on the study roadways.

Figure 4.6-1 – Roadway Geometrics, Traffic Control, and Peak Hour Traffic Volumes

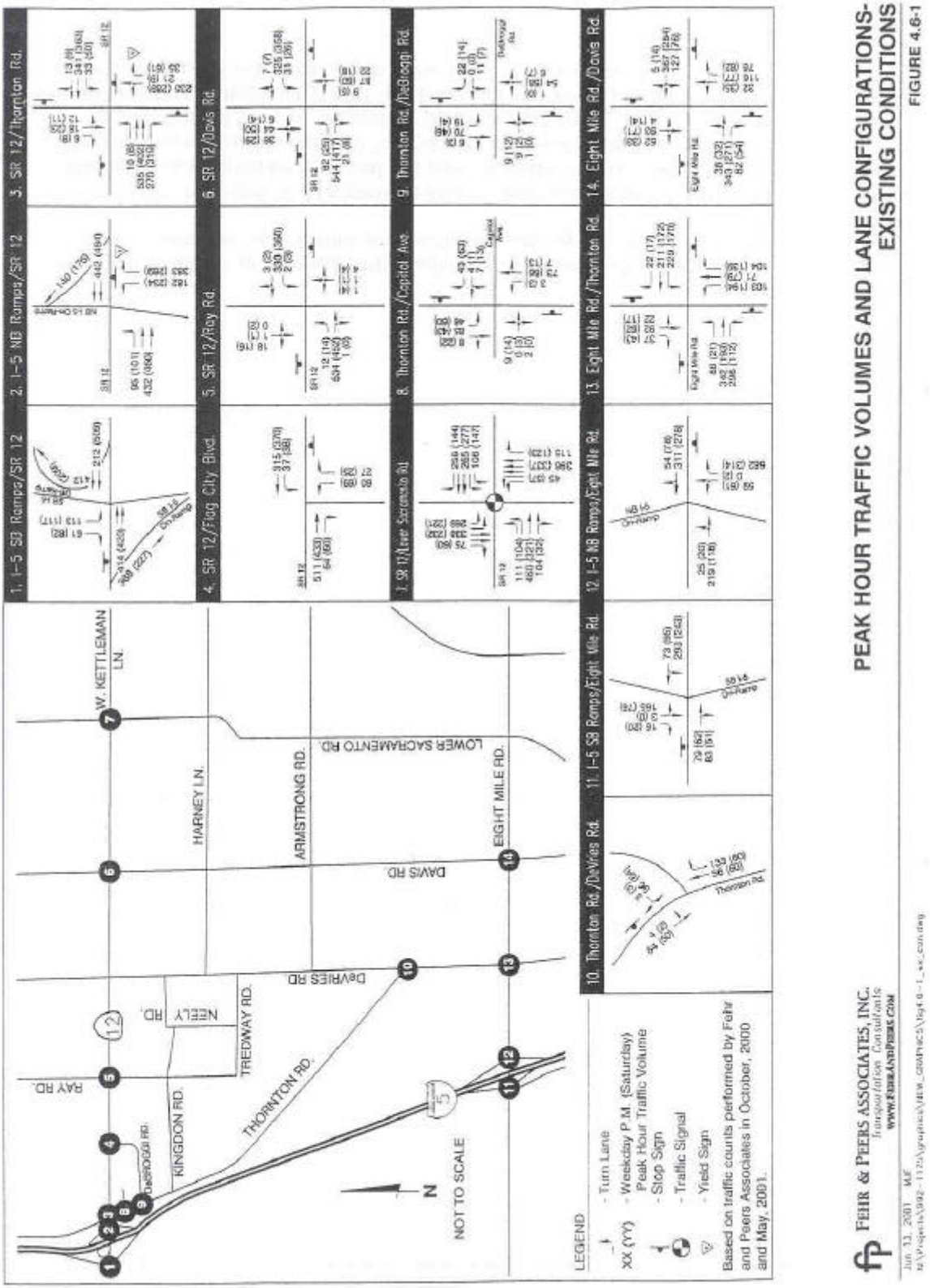


Table 4.6-2

Existing Truck Traffic – Weekday P.M. Peak Hour

Intersection Approach	Total Traffic	Trucks	% Trucks
SR 12/Thornton Road Intersection			
Eastbound SR 12	815	96	12%
Westbound SR 12	387	19	5%
Northbound Thornton Road	291	42	14%
Southbound Thornton Road	36	0	0%
TOTAL:	1,529	157	10%
Eight Mile Road/Thornton Road Intersection			
Eastbound Eight Mile Road	724	24	3%
Westbound Eight Mile Road	462	7	2%
Northbound Thornton Road	278	4	1%
Southbound Thornton Road	151	4	3%
TOTAL:	1,615	39	2%

Based on traffic counts performed by Fehr & Peers Associates on Tuesday, October 24, 2001.

Notes: - Trucks are defined as 2-axle delivery vehicles and all 3 or more axle vehicles.

Table 4.6-3 displays the existing weekday p.m. peak hour and Saturday peak hour average delay and level of service at each study intersection (technical calculations are contained in Appendix C). The level of service for minor-street stop-controlled intersections is determined by the stop-controlled approach with greater delay (in cases where the intersection features two minor streets).

This table also displays the results of a traffic signal warrant analysis of each unsignalized study intersection. For each intersection, the "Peak Hour Delay", and "Peak Hour Volume" Warrants described in the *Traffic Manual*, Caltrans, 1995 were checked. The Peak Hour Delay Warrant is met at an intersection when certain predetermined traffic volume and delay thresholds are met. The Peak Hour Volume Warrant is met at an intersection when certain predetermined traffic volume thresholds are met. As specified in the *Traffic Manual*, the "rural" criteria for the Peak Hour Volume Warrant was used (as opposed to the "urban" warrant criteria) because the study area is "rural" (i.e., has a population of less than 10,000) and has prevailing travel speeds that exceed 40 mph on most roadways.

Table 4.6-3

Peak Hour Level of Service – Existing Conditions

#	Intersection	Traffic Control	Weekday P.M. Peak Hour	Saturday Peak Hour	Traffic Signal Warrants Met?
			Average Delay (sec/veh) – LOS	Average Delay (sec/veh) – LOS	
1	SR 12/I-5 Southbound Ramps	Minor-Street Stop	12.9 – B	20.8 – C	Peak Hour Volume
2	SR 12/I-5 Northbound Ramps	Minor-Street Stop	44.2 – E	> 50 – F	Peak Hour Volume, Peak Hour Delay
3	SR 12/Thornton Road	All-Way Stop	19.0 – C	23.3 – C	Peak Hour Volume
4	SR 12/Flag City Boulevard	Minor-Street Stop	20.7 – C	21.2 – C	None
5	SR 12/Ray Road	Minor-Street Stop	15.7 – C	17.9 – C	None
6	SR 12/Davis Road	Minor-Street Stop	> 50 – F	28.7 – D	Peak Hour Volume
7	SR 12/W. Kettleman Lane/Lower Sacramento Road	Traffic Signal	27.1 – C	28.6 – C	Not Applicable
8	Thornton Road/Capitol Avenue	Minor-Street Stop	11.1 – B	12.1 – B	None
9	Thornton Road/DeBroggi Road	Minor-Street Stop	10.2 – B	9.9 – A	None
10	Thornton Road/DeVries Road	Minor-Street Stop	9.9 – A	9.7 – A	None
11	Eight Mile Road/I-5 Southbound Ramps	Minor-Street Stop	38.5 – E	19.9 – C	None
12	Eight Mile Road/I-5 Northbound Ramps	Minor-Street Stop	37.8 – E	12.0 – B	Peak Hour Volume, Peak Hour Delay
13	Eight Mile Road/Thornton Road	All-Way Stop	25.0 – C	14.2 – B	Peak Hour Volume
14	Eight Mile Road/Davis Road	All-Way Stop	41.1 – E	17.7 – C	Peak Hour Volume

Source: Fehr & Peers Associates, 2001.

Notes:

- For intersections with all-way stop-control or a traffic signal, average delay is for all vehicles entering the intersection.
- For intersections with minor-street stop-control, average delay is for vehicles on the minor-street approach only.

Table 4.6-3 indicates that the following five intersections currently operate at LOS E or F:

- SR 12/I-5 Northbound Ramps (LOS E during weekday p.m. peak hour and LOS F during Saturday peak hour);
- SR 12/Davis Road (LOS F during weekday p.m. peak hour);
- Eight Mile Road/I-5 Southbound Ramps (LOS E during weekday p.m. peak hour);
- Eight Mile Road/I-5 Northbound Ramps (LOS E during weekday p.m. peak hour); and
- Eight Mile Road/Davis Road (LOS E during weekday p.m. peak hour).

In addition, Table 4.6-3 also shows that traffic signal warrants are met at 7 of the 13 unsignalized study intersections.

Transit System

The Lodi Grapeline provides transit service in the City of Lodi and the San Joaquin Regional Transit District provides transit service within the City of Stockton and unincorporated San Joaquin County. Both providers offer fixed-route and dial-a-ride services. Regional transit service between Lodi, Galt, and Sacramento is provided by SCT/Link.

No transit facilities or services are currently provided within the study area.

Bicycle and Pedestrian System

Field observations indicate that no bicycle or pedestrian facilities (either on-street or off-street) exist in the vicinity of the project site. The segment of Thornton Road along the frontage of the project site has minimal shoulders and no sidewalks.

TRANSPORTATION AND CIRCULATION GOALS, POLICIES, AND OBJECTIVES

Numerous goals and policies from the *City of Lodi General Plan* (1991), *City of Stockton General Plan* (1990), and *San Joaquin County General Plan* (1992) apply to the transportation system within the study area. These documents were reviewed as part of this study to assist in the development of impact significance criteria. A brief summary of the applicable regulatory guidelines is provided below. Since the project site is located within the City of Lodi, many of the goals and policies listed below are based on the *City of Lodi General Plan*.

Table 4.6-4 identifies goals and policies for transportation, which provide guidance in relation to project activities. The table also indicates which evaluation criteria in the Transportation and Circulation Section are responsive to which policy.

Table 4.6-4

General Plan Goals, Objectives and Policies – Transportation and Circulation

Adopted Plan Document	Document Section	Document Numeric Reference	Goal or Policy	Relevant Evaluation Criteria[1]
City of Lodi General Plan	Section 5 Circulation Element	Goal A	To provide for a circulation system that accommodates existing and proposed land uses and provides for the efficient movement of people, goods, and services.	1, 4
City of Lodi General Plan	Section 5 Circulation Element	Policy 1 of Goal A	The City of Lodi shall strive to maintain Level of Service "C" on local streets and at intersections. The acceptable level of service goal will be consistent with the financial resources available and the limits of technical feasibility.	1
City of Lodi General Plan	Section 5 Circulation Element	Policy 5 of Goal A	The City of Lodi shall review new developments for consistency with the General Plan Circulation Element and the capital improvements program.	4
City of Lodi General Plan	Section 5 Circulation Element	Policy 11 of Goal A	The City of Lodi should upgrade existing substandard streets, as needed and when feasible, to accommodate traffic flow and minimize safety hazards.	4
City of Lodi General Plan	Section 5 Circulation Element	Policy 1 of Goal B	To ensure the adequate provision of both on-street and off-street parking, the City of Lodi shall require new developments to provide an adequate number of off-street parking spaces in accordance with City parking standards.	4
City of Lodi General Plan	Section 5 Circulation Element	Goal C	To encourage use of transit where feasible.	5, 6, 7
City of Lodi General Plan	Section 5 Circulation Element	Policy 3 of Goal C	The City of Lodi shall consider expanding its transit service to include limited fixed-route services if sufficient demand exists and if the cost is economically feasible.	5
City of Lodi General Plan	Section 5 Circulation Element	Goal E	To encourage the use of bicycles as an alternate mode of transportation	8, 9, 10
City of Lodi General Plan	Section 5 Circulation Element	Policy 1 of Goal D	The City of Lodi shall continue to require sidewalks for all developments in accordance with City design standards and encourage additional pedestrian access where applicable.	8, 9, 10
City of Stockton General Plan	Section III	Policy 1.9	The City of Stockton shall strive to maintain Level of Service "D" on local streets and at intersections.	2

Table 4.6-4

General Plan Goals, Objectives and Policies – Transportation and Circulation

Adopted Plan Document	Document Section	Document Numeric Reference	Goal or Policy	Relevant Evaluation Criteria[1]
San Joaquin County General Plan	Trans-portation	Policy 8	San Joaquin County roadways with the classification of minor arterial or higher shall maintain a Level of Service no lower than "D" at all intersections	2
San Joaquin County General Plan	Public Facilities	Policy 5	All major developments in San Joaquin County shall have provisions for transit.	7
San Joaquin County General Plan	Public Facilities	Policy 2	The San Joaquin County shall include appropriate bicycle facilities as part of new development.	10

Source: Fehr and Peers Associates, Inc., 2001

Note:
1. The evaluation criteria are in Table 4.6-5.

EVALUATION CRITERIA WITH POINTS OF SIGNIFICANCE

A significant environmental impact would occur if the proposed project would:

Table 4.6-5

Evaluation Criteria with Points of Significance-Transportation and Circulation

Evaluation Criteria	As Measured by	Point of Significance	Justification
1. Will the Project cause the existing or cumulative no project LOS at an analysis location within the City of Lodi (i.e., SR 12/Lower Sacramento Road) to worsen from LOS C or better to LOS D or worse?	Delay and LOS	LOS D	City of Lodi General Plan policy
2. Will the Project cause the existing or cumulative no project LOS at an analysis location within the City of Stockton or unincorporated San Joaquin County (i.e., intersections along Eight Mile Road, Thornton Road, and SR 12) to worsen from LOS D or better to LOS E or worse?	Delay and LOS	LOS E	General Plan policies of Stockton and San Joaquin County
3. Will the Project worsen already (or projected) unacceptable operations at an analysis location?	Delay and LOS	LOS D in Lodi; LOS E elsewhere	CEQA

Table 4.6-5

Evaluation Criteria with Points of Significance-Transportation and Circulation

Evaluation Criteria	As Measured by	Point of Significance	Justification
4. Will the Project create an inconsistency with policies concerning roadway systems set forth in the General Plans for the City of Lodi, City of Stockton, and San Joaquin County?	Review of project	Identified inconsistency with policies	Stockton, Lodi, and San Joaquin Co. General Plan
5. Will the Project create the demand for public transit service above that which is provided, or planned to be provided?	Evaluation of transit needs	Projected transit demand that exceeds supply	Stockton, Lodi, and San Joaquin Co. General Plan
6. Will the Project disrupt or interfere with existing or planned public transit services or facilities?	Review of project	Project disrupts transit service	Stockton, Lodi, and San Joaquin Co. General Plan
7. Will the Project create an inconsistency with policies concerning transit systems set forth in the General Plans for the City of Lodi, City of Stockton, and San Joaquin County?	Review of project	Project disrupts transit service or causes unmet transit demand	Stockton, Lodi, and San Joaquin Co. General Plan
8. Will the Project disrupt or interfere with existing or planned bicycle or pedestrian facilities?	Review of project	Project disrupts pedestrian or bicycle system	Stockton, Lodi, and San Joaquin Co. General Plan
9. Will the Project create an unmet need for bicycle or pedestrian facilities?	Review of project	Unmet demand for bicycle or pedestrian facilities	Stockton, Lodi, and San Joaquin Co. General Plan
10. Will the Project create an inconsistency with policies related to bicycle or pedestrian systems in the General Plans of the City of Lodi, City of Stockton, and San Joaquin County?	Review of project	Project disrupts bicycle system or causes unmet bicycle demand	Stockton, Lodi, and San Joaquin Co. General Plan

Source: Fehr and Peers Associates, Inc. 2001

METHODOLOGY

This section begins with a description of the proposed project followed by a discussion of the methodologies used in estimating the number of project trips, determining the distribution of project trips, and assigning the project trips to the roadway network.

Project Description

The Lodi ProStyle Sports Complex would consist of the following components (the reader is referred to the Project Description chapter for a more detailed description of the project):

- 40 soccer fields, 19 softball fields, 4 baseball fields, 7 basketball courts, and 9 tennis courts, all of which would be outdoor;
- 25 basketball/volleyball courts, which would be indoor;
- Field house to accommodate indoor football, soccer, baseball, and softball events with seating for 5,000 to 6,000 spectators;
- Central stadium with outdoor football/soccer field and track with seating for 4,000 spectators;
- Aquatic center with 50-meter lap pool and diving pool with seating for 2,000 spectators;
- Ice rink (for two simultaneous hockey matches) with seating for 1,500 spectators;
- Central office facility consisting of a training center, conference rooms, weight rooms, locker rooms, library, 500-seat lecture hall, leasable office space, sports apparel store, etc., of unknown size;
- 34,000 square-foot medical clinic for sports medicine and physical therapy;
- Dormitory with 200 four-person rooms and 10-15 two-person rooms;
- Hotel with 600 two-person rooms, meeting/conference rooms, pool, and tennis courts;
- Recreational vehicle (RV) park with 100 RV hookups and related camping facilities; and
- 48,000 square feet of retail space including a food court, clothing and sporting goods/equipment stores.

Project impacts were analyzed under the following "activity" scenarios:

- Scenario 1 – "Typical" Weekday Evening Activities (e.g., soccer practices); and
- Scenario 2 – A Sold-Out 5,000-Seat Sporting Event at the Field House.

Table 4.6-6 displays the recreational activities that were assumed to occur on the project site under Scenario 1 (typical weekday p.m. peak hour) and Scenario 2 (Saturday Special Event).

Table 4.6-6

Weekday P.M. Peak Hour and Saturday Peak Hour Recreational Activities[1]

Type of Recreational Activity	Description of Activity Under….		Geographic Origin of Users/Attendees
	Scenario 1 (Typical Weekday P.M. Peak Hour)	Scenario 2 (Saturday Special Event)	
Youth Soccer Games/Practices	Games beginning at 5:30 p.m. on 8 fields and practices for 10 teams beginning at 5:00 p.m.	Practices for 10 teams beginning at 12:00 p.m.	Primarily Lodi [2]
Basketball Leagues/Practices	100 players participating in games/practices	100 players participating in games/practices	Lodi and Stockton
Swimming	Swimming or water polo practices	Unused	Primarily Lodi
Ice Hockey	Hockey practices	Unused	Primarily Lodi
Adult Softball	Games beginning at 6:00 p.m. on 9 fields [3]	Games beginning at 1:00 p.m. on 9 fields	Lodi and Stockton
Tennis Courts	Walk-up matches	Unused	Primarily Lodi
Weight Room/Training Center	Walk-up use of weight room Scheduled training sessions	Unused	Primarily Lodi
Youth Softball/Baseball	No usage due to overlap with soccer season	No usage due to overlap with soccer season	Not Applicable
Field House	Unused	5,000-seat sold-out event beginning at 1:00 p.m.	Regional

Source: Fehr & Peers Associates, 2001.

Notes:
1. Based on input provided by project applicant and City of Lodi.
2. Evening youth soccer games are currently played in Lodi on a limited number of fields.
3. Lodi currently has adult softball leagues with concurrent games on six fields; Stockton currently has adult softball leagues with concurrent games on 12 fields.

The 5,000-seat sold-out special event assumed under Scenario 2 was assumed to consist of an inter-regional sporting event, such as a football or basketball game. One team was assumed to originate from the north (e.g., Sacramento) and the other team was assumed to originate from the south (e.g., Stockton, San Francisco East Bay). While the resulting distribution of project trips would not be applicable if both teams originated from one geographic area, this assumption is intended to represent a "most likely" condition based on the major population centers in the region.

Trip Generation

The trip generation of a proposed land development project is typically estimated using trip generation rates from *Trip Generation* (Institute of Transportation Engineers, 1997). However, *Trip Generation* does not provide trip generation information for a sports complex, especially one as unique as the proposed project. Therefore, the external trip generation was estimated by first computing the trip generation of each individual activity, and then estimating the internalization of trips between various on-site generators (e.g., trips from the hotel to the special event).

Tables 4.6-7 and 4.6-8 display the estimated peak hour trip generation under Scenarios 1 and 2, respectively. The trip generation estimate is based on trip rates from *Trip Generation*, trip generation studies performed by Fehr & Peers Associates in October 2000, and assumptions related to the number of players, coaches, officials, and average vehicle occupancy.

This table shows that the individual uses on-site are estimated to generate 1,360 p.m. peak hour trips. Adjustments were applied to the trip generation estimate in recognition that some trips will remain internal within the site (e.g., trips between retail uses and softball fields, trips between medical clinic and hotel, etc.). After considering internal trips, the proposed project is estimated to generate 1,260 external trips with 813 being inbound and 447 being outbound.

Trip Distribution

The expected distribution of project trips under Scenario 1 was based on a number of factors including the expected geographic origin of users of the individual project components (see Table 4.6-6), the population distribution within a 15-mile radius of the project site, and existing travel patterns. Most users of the site during the typical weekday evening peak hour are expected to reside in Lodi or Stockton. The distribution of persons residing within a 15-mile radius shows a similar orientation towards Lodi and Stockton. Thus, the vast majority of project trips are expected to be distributed to/from the east (toward Lodi) or to/from the south (toward Stockton).

Under Scenario 2, a greater percentage of project trips are expected to use Interstate 5 to access the site based on the assumption that the sporting event will consist of regional participants. Local roadways in San Joaquin County, Lodi, and Stockton will be used by persons participating in the ancillary activities on-site (soccer/basketball practices, softball games, etc.) during the special event.

Table 4.6-7

Trip Generation – Scenario 1 (Weekday P.M. Peak Hour)

Individual Use	Amount	Scenario 1 (Typical Weekday P.M. Peak Hour Activities)				Notes
		Trip Rate	Inbound Trips	Outbound Trips	Total Trips	
Youth Soccer Games	8 games	23 inbound trips/game [1]	184	0	184	Games begin at 5:30 p.m.
Youth Soccer Practice	10 teams	8 inbound trips/team [2]	80	40	120	15 players @ 2.5 players per vehicle
Basketball Leagues / Practices	100 players	0.40 inbound trips/player [2]	40	20	60	2.5 players per vehicle
Swimming/Water Polo Practices	Not Applicable [3]		71	65	136	See footnote (3) below
Ice Hockey	Not Applicable [4]		44	45	89	See footnote (4) below
Adult Softball	9 games	20 inbound trips/ game [5]	180	0	180	Games begin at 6:00 p.m.
Tennis Courts	9 courts	3.88 total trips/ court [6]	20	15	35	All nine courts used
Weight Room/ Training Center	50 persons	0.80 total trips/ person	20	20	40	1.25 persons per vehicle
Offices	25 employees	0.46 total trips/ employee[6]	2	10	12	--
Medical Clinic	34 ksf	3.66 total trips/ ksf [6]	33	91	124	--
Retail	48 ksf	2.59 total trips / ksf[6]	53	71	124	--
Hotel	420 occ. rooms [7]	0.61 total trips / room[6]	136	120	256	--
Gross Trips			863	497	1,360	--
Internal Trips[8]			- 50	- 50	- 100	--
External Trips			**813**	**447**	**1,260**	--

Source: Fehr & Peers Associates, 2001.

Notes:

1. Based on attendance of 68 persons per game (for 16 & under game) as observed at Blaine Minnesota Sports Complex with average of 3 persons per vehicle.
2. 50 percent of parents assumed to depart site after dropping off children for practice.
3. Based on October 24, 2000 trip generation study by Fehr & Peers at Roseville Aquatics Complex. During the count period, simultaneous swimming and water polo practices were held.
4. Based on October 24, 2000 trip generation study by Fehr & Peers at Roseville Skatetown. During the counts, one rink was used for youth hockey practice and the other rink was used for "free skating".

5. Based on attendance of 30 persons per game (players, spectators, referees) with average of 1.5 persons per vehicle.
6. Based on trip generation rates for Tennis Courts (Code 491), General Office (Code 710), Medical- Dental Office Building (Code 720), Specialty Retail Center (Code 814), and Hotel (Code 310) from *Trip Generation*, ITE, 1997.
7. 70 percent of the 600 rooms (i.e., 420 rooms) assumed to be occupied for analysis purposes consistent with occupancy rates in other hotels/motels in Lodi.
8. 10 percent of outbound trips from individual uses assumed to remain within the site (e.g., trips from the medical clinic to the hotel).

Table 4.6-8

Trip Generation – Scenario 2 (Saturday Special Event Peak Hour)

Individual Use	Amount	Scenario 2 (Saturday Special Event Peak Hour)				Notes
		Trip Rate	Inbound Trips	Outbound Trips	Total Trips	
Special Event	5,000 seats	See Note	1,667 [1]	167	1,834	Assumes 3 attendees per vehicle
Youth Soccer Practice	10 teams	8 inbound trips/team [2]	80	40	120	15 players @ 2.5 players per vehicle
Basketball Leagues / Practices	100 players	0.40 inbound trips/player [2]	40	20	60	2.5 players per vehicle
Adult Softball	9 games	20 inbound trips/ game [3]	180	0	180	Games begin at 1:00 p.m.
Office/ Medical Clinic	See Note	See Note	20	20	40	Limited usage
Retail	48 ksf	1.67 total trips / ksf	40	40	80	Weekend Usage
Hotel	420 occ. rooms [4]	See Note	20	284	304	75% of occupants assumed to be special event attendees
Gross Trips			2,047	571	2,618	--
Internal Trips[5]			- 274	- 274	- 548	--
External Trips			**1,773**	**297**	**2,070**	--

Source: Fehr & Peers Associates, 2001.

Notes:
1. 10 percent of inbound special event vehicles assumed drop off attendees and then immediately exit site. Participants in event assumed to arrive at fieldhouse prior to beginning of peak hour.
2. 50 percent of parents assumed to depart site after dropping off children for practice.
3. Based on attendance of 30 persons per game (players, spectators, referees) with average of 1.5 persons per vehicle.
4. 70 percent of the 600 rooms (i.e., 420 rooms) assumed to be occupied for analysis purposes consistent with occupancy rates in other hotels/motels in Lodi.
5. 85 percent of outbound hotel/retail trips assumed to attend special event.

Trip Assignment

The assignment of project trips will be substantially affected by several near-term roadway improvements, which are either under construction or out to bid for construction. According to Caltrans District 10 staff (Gabe Mendez pers. comm.), the following improvements are planned in the vicinity of the SR 12 and Thornton Road (see Figure 4.6-2):

- Relocate the segment of Thornton Road north of SR 12 to the east (directly opposite the future extension of Star Street).
- Extend Star Street north to SR 12;
- Widen SR 12 to include two through lanes in each direction from the existing Thornton Road intersection eastward through the relocated Thornton Road/Star Street intersection;
- Construct a second right-turn lane at the SR 12 Northbound Off-Ramp;
- Install a traffic signal and construct the following approach lanes at the SR 12/Relocated Thornton Road/Star Street intersection:
  - EB SR 12: two left-turn lanes, two through lanes, and one right-turn lane;
  - WB SR 12: one left-turn lane, two through lanes, and one right-turn lane;
  - SB Thornton Road: one left-turn lane, one through lane, and one right-turn lane; and
  - NB Star Street: two left-turn lanes and a shared through/right-turn lane.
- Restrict turning movements at Thornton Road south of SR 12 to right-turns only.

Since there is a high likelihood that these improvements will be in place by the time the proposed project would be constructed, they were assumed in place for the purposes of the "existing plus project" analysis.

Figure 4.6-2 displays the expected distribution of project trips under Scenarios 1 and 2. Figure 4.6-3 displays the assignment of those trips to the study intersections.

Existing Plus Project Conditions

Existing traffic volumes were reassigned to the study intersections based on the roadway improvements described above. Project-only trips were then added to the reassigned existing traffic volumes to yield the existing plus project traffic volumes, which are shown on Figure 4.6-4.

Table 4.6-9 displays the resulting level of service at each study intersection under existing plus project conditions under Scenarios 1 and 2 (see Appendix C for technical calculations).

Figure 4.6-2 Project Trip Distribution

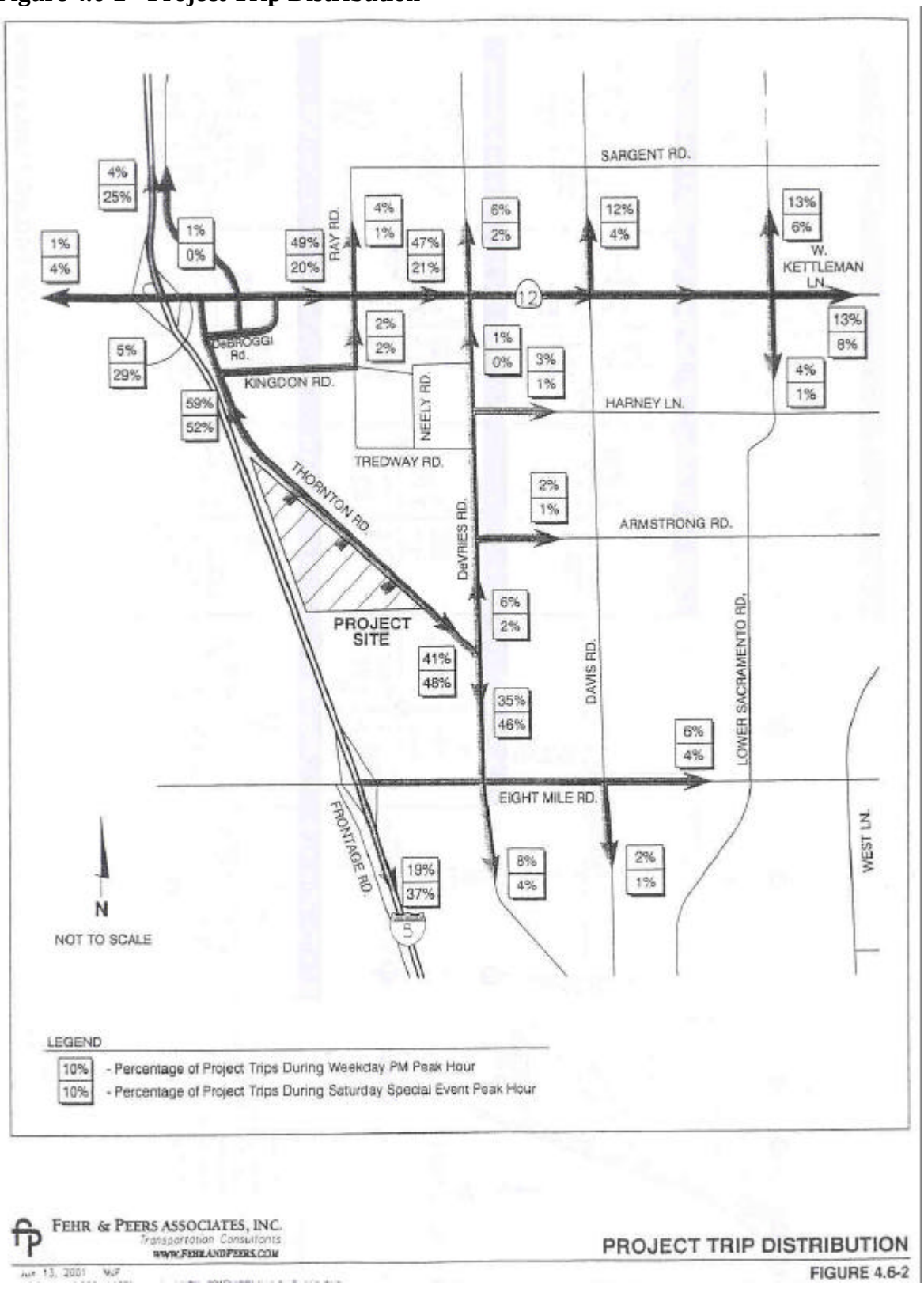


Figure 4.6-3 Assignment of Project Only Trips

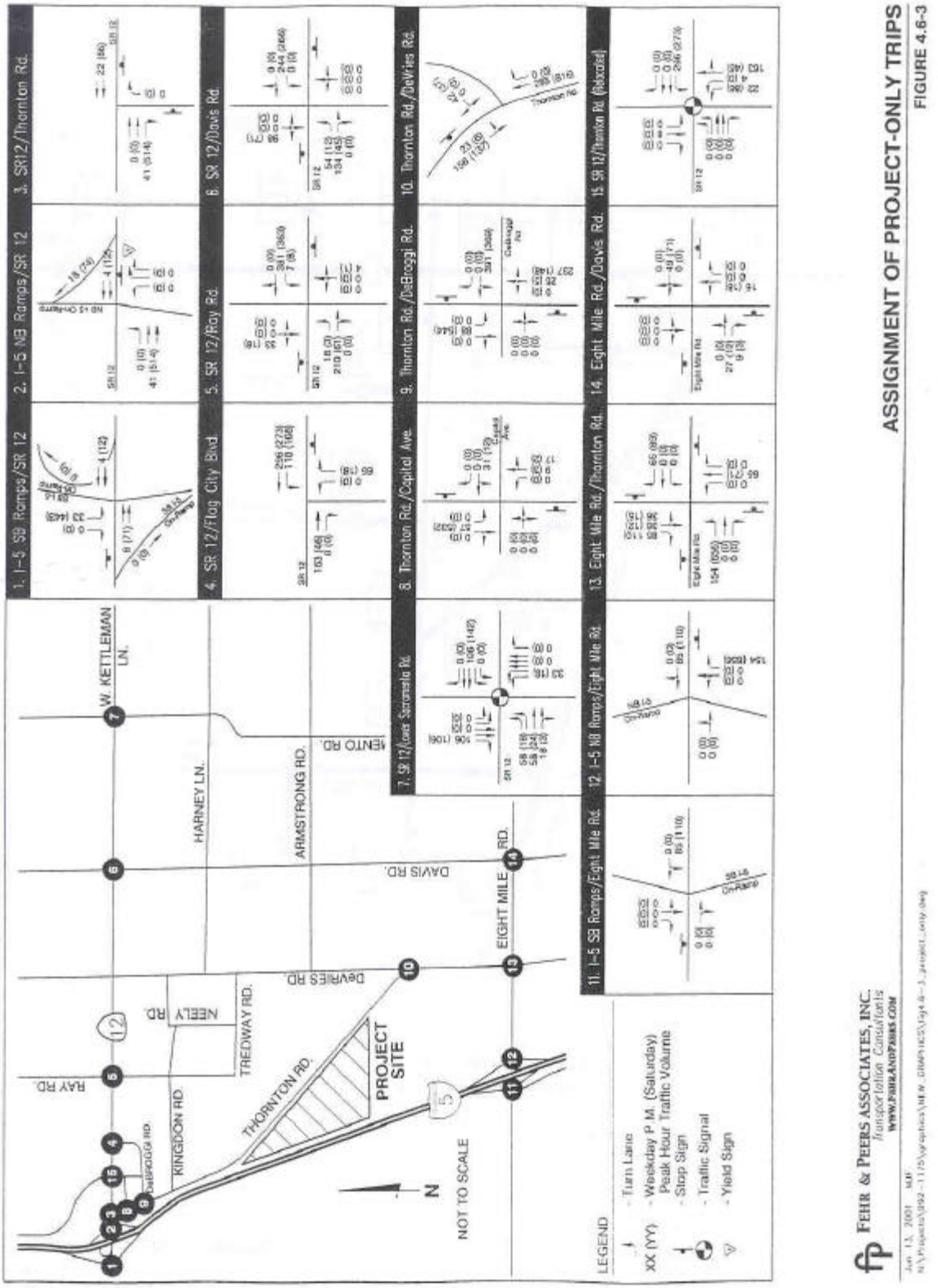


Figure 4.6-4 Existing Plus Project Conditions

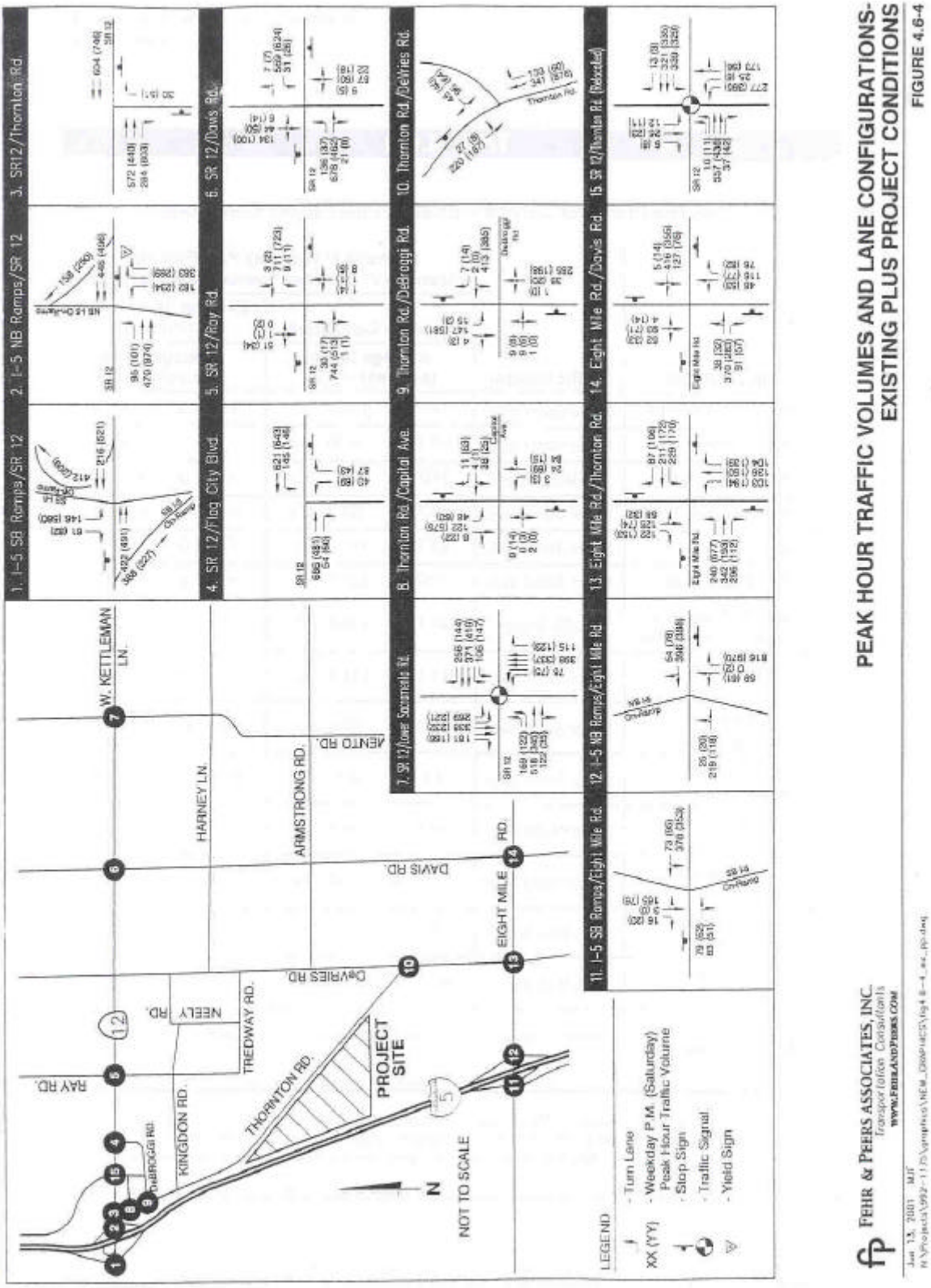


Table 4.6-9

Peak Hour Level of Service – Existing Plus Project Conditions

#	Intersection	Traffic Control	Scenario 1: Weekday P.M. Peak Hour (Scenario 2: Saturday Special Event Peak Hour)	
			Existing Conditions	Existing Plus Project Conditions
			Average Delay (sec/veh) – LOS	Average Delay (sec/veh) – LOS
1	SR 12/I-5 SB Ramps	Minor-Street Stop	12.9 – B (20.8 – C)	14.2 – B (> 50 – F)
2	SR 12/I-5 NB Ramps	Minor-Street Stop	44.2 – E (> 50 – F)	> 50 – F (> 50 – F)
3	SR 12/Thornton Rd.	All-Way Stop [1]	19.0 – C (23.3 – C)	12.9 – B (6.0 – A)
4	SR 12/Flag City Blvd.	Minor-Street Stop	20.7 – C (21.2 – C)	> 50 – F (> 50 – F)
5	SR 12/Ray Road	Minor-Street Stop	15.7 – C (17.9 – C)	27.4 – D (30.3 – D)
6	SR 12/Davis Road	Minor-Street Stop	> 50 – F (28.7 – D)	> 50 – F (> 50 – F)
7	SR 12/Kettleman Ln./ Lower Sacramento Rd.	Traffic Signal	27.1 – C (28.6 – C)	27.5 – C (28.6 – C)
8	Thornton Road/ Capitol Avenue	Minor-Street Stop	11.1 – B (12.1 – B)	11.1 – B (22.4 – C)
9	Thornton Road/ DeBroggi Road	Minor-Street Stop	10.2 – B (9.9 – A)	38.7 – E (> 50 – F)
10	Thornton Road/ DeVries Road	Minor-Street Stop	9.9 – A (9.7 – A)	18.0 – C (44.4 – E)
11	Eight Mile Road/I-5 SB Ramps	Minor-Street Stop	38.5 – E (19.9 – C)	> 50 – F (37.3 – E)
12	Eight Mile Road/I-5 NB Ramps	Minor-Street Stop	37.8 – E (12.0 – B)	> 50 – F (> 50 – F)
13	Eight Mile Road/ Thornton Road	All-Way Stop	25.0 – C (14.2 – B)	44.0 – E (> 50 – F)
14	Eight Mile Rd./ Davis Rd.	All-Way Stop	41.1 – E (17.7 – C)	> 50 – F (23.4 – C)
15	SR 12/Thornton Road/Star Street	Traffic Signal[2]	Not Applicable[2]	28.4 – C (28.0 – C)

Source: Fehr & Peers Associates, 2001.

Notes:
1. All-way stop-control under existing conditions; minor-street stop-control under existing plus project conditions.
2. Does not currently exist; assumed to be constructed and signalized under existing plus project conditions.

- For intersections with all-way stop-control or a traffic signal, average delay is for all vehicles entering the intersection.
- For intersections with minor-street stop-control, average delay is for vehicles on the minor-street approach only.

Under Scenario 1, the addition of project traffic would worsen operations by at least one service level at nine study intersections. Under Scenario 2, the addition of project traffic would worsen operations by at least one service level at ten study intersections. Project-specific impacts are identified in the following section.

Seven unsignalized study intersections meet one or more of the traffic signal warrants under existing conditions. The addition of project traffic furthers the need for traffic signals at these intersections and results in one or more traffic signal warrants being met at the following three additional intersections:

- SR 12/Flag City Boulevard;
- Thornton Road/DeBroggi Road; and
- Thornton Road/DeVries Road.

As noted in the *Traffic Manual*, the satisfaction of a warrant is not necessarily justification for a signal. Delay, congestion, confusion or other evidence of the need for right-of-way assignment must be shown.

Cumulative Conditions Analysis

The analysis of traffic operations under cumulative conditions is required under CEQA to determine if the addition of project traffic in combination with other traffic growth would result in cumulative adverse impacts. The following describes the travel forecasting methodology, planned roadway improvements, and the resulting traffic operations at the study intersections.

Travel Forecasting Methodology

Fehr & Peers Associates used the San Joaquin Council of Governments (SJCOG) travel demand model to develop cumulative (i.e., Year 2020) traffic forecasts. The SJCOG traffic model is a regional model that includes all areas that potentially attract trips from San Joaquin County, including Stanislaus County, the San Francisco Bay Area, Sacramento, and other regions. As part of the Lower Sacramento Road Widening Study, Fehr & Peers Associates modified the land uses and roadway network assumptions within this area of the model in 1999. This version of the model was used to develop weekday p.m. peak hour traffic forecasts at the study intersections.

Since the SJCOG traffic model does not provide weekend traffic forecasts, project impacts during a Saturday Special Event (i.e., Scenario 2), which would occur on only five to six weekends per year, were not analyzed under cumulative conditions.

Planned Roadway Improvements

In 1997, SJCOG, in association with the City of Lodi and Caltrans, performed a corridor study of SR 12 in San Joaquin County (*Route 12 in San Joaquin County Corridor Study*, SJCOG). The study analyzed existing traffic conditions on SR 12 and prioritized the need for improvements to the corridor. The installation of traffic signals at the I-5/SR 12 interchange was identified as a Priority A (prior to 2010) project. The widening of SR 12 to four lanes from ½ mile west of Ray Road to Lower Sacramento Road was identified as a Priority B (after 2010) project. For the purposes of the cumulative impact analysis, the following improvements were assumed on SR 12:

- Installation of traffic signals on SR 12 at the I-5 Southbound Ramps, I-5 Northbound Ramps, Flag City Boulevard, and Davis Road; and
- Widening of SR 12 to four lanes from Thornton Road to west of Lower Sacramento Road and to six lanes from west of Lower Sacramento Road to SR 99.

It should be noted that widening of SR 12 to four lanes from (existing) Thornton Road to beyond the relocated Thornton Road/Star Street intersection assumed in place for the "existing plus project" conditions was also assumed for the cumulative analysis.

In 1993, San Joaquin County and the City of Stockton commissioned a study of the Eight Mile Road corridor (*Eight Mile Road Specific Road Plan*, Omni-Means, Ltd.). This study recommended roadway widenings and intersection improvements to serve projected traffic volumes in 2015. This study recommended that Eight Mile Road be widened to eight lanes from west of I-5 to SR 99 to achieve acceptable operations. For the purposes of the cumulative impact analysis, the following improvements were assumed on Eight Mile Road:

- Installation of traffic signals on Eight Mile Road at the I-5 Southbound Ramps, I-5 Northbound Ramps, Thornton Road, and Davis Road; and
- Widening of Eight Mile Road to six lanes on either side of I-5 and to four lanes from east of I-5 to beyond Lower Sacramento Road.

In addition, a new two-lane collector street that would parallel Lower Sacramento Road from Sargent Road to Harney Lane was also assumed in place under cumulative conditions. This roadway is shown in the *City of Lodi General Plan* as being required by 2007.

The cumulative roadway network assumptions are illustrated on Figure 4.6-5. These assumptions were reviewed and approved by City of Lodi (Paula Fernandez pers. comm.) and City of Stockton staff (Kathy Tomura pers. comm.) prior to their use.

Traffic Forecasts

Figure 4.6-6 displays the cumulative no project weekday p.m. peak hour traffic volumes at the study intersections. This figure also reflects the assumed roadway improvements to the roadway system. A comparison of the cumulative no project volumes to existing traffic levels shows the following average annual growth rates in traffic on key roadways in the study area:

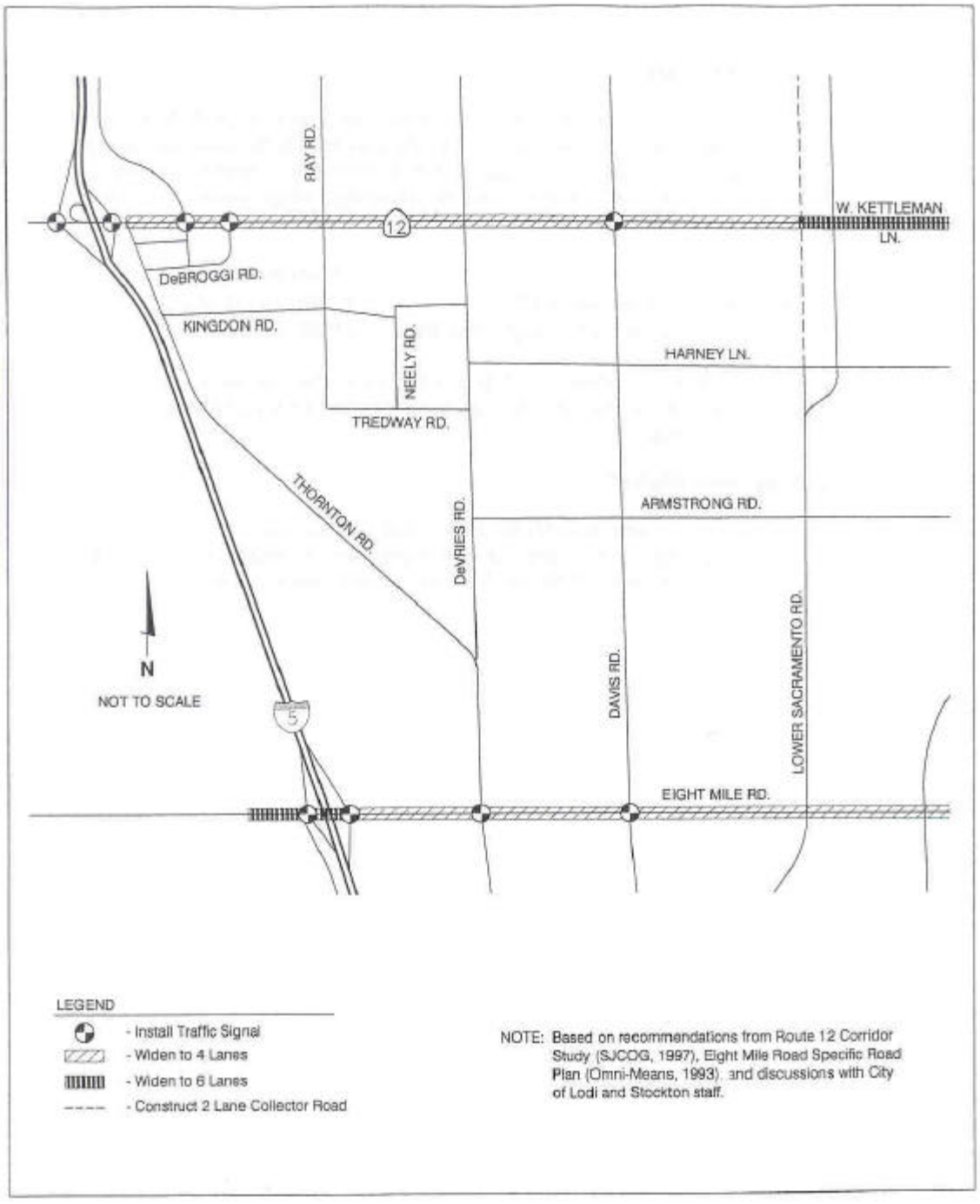
- SR 12 east of I-5: 3.5 percent per year
- Eight Mile Road east of I-5: 4.7 percent per year
- Thornton Road north of Eight Mile Road: 2.9 percent per year

The project-only trips shown on Figure 4.6-3 were added to the cumulative no project traffic volumes to yield the cumulative plus project traffic volumes, which are shown on Figure 4.6-7.

Intersection Analysis

The weekday p.m. peak hour levels of service at each intersection were computed under cumulative no project and cumulative plus project conditions. The results are summarized in Table 4.6-10 (see Appendix C for technical calculations).

Figure 4.6-5 – Cumulative Roadway Assumptions



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ROADWAY IMPROVEMENTS ASSUMED UNDER CUMULATIVE (2020) CONDITIONS

FIGURE 4.6-5

Figure 4.6-6: Cumulative No Project Volumes

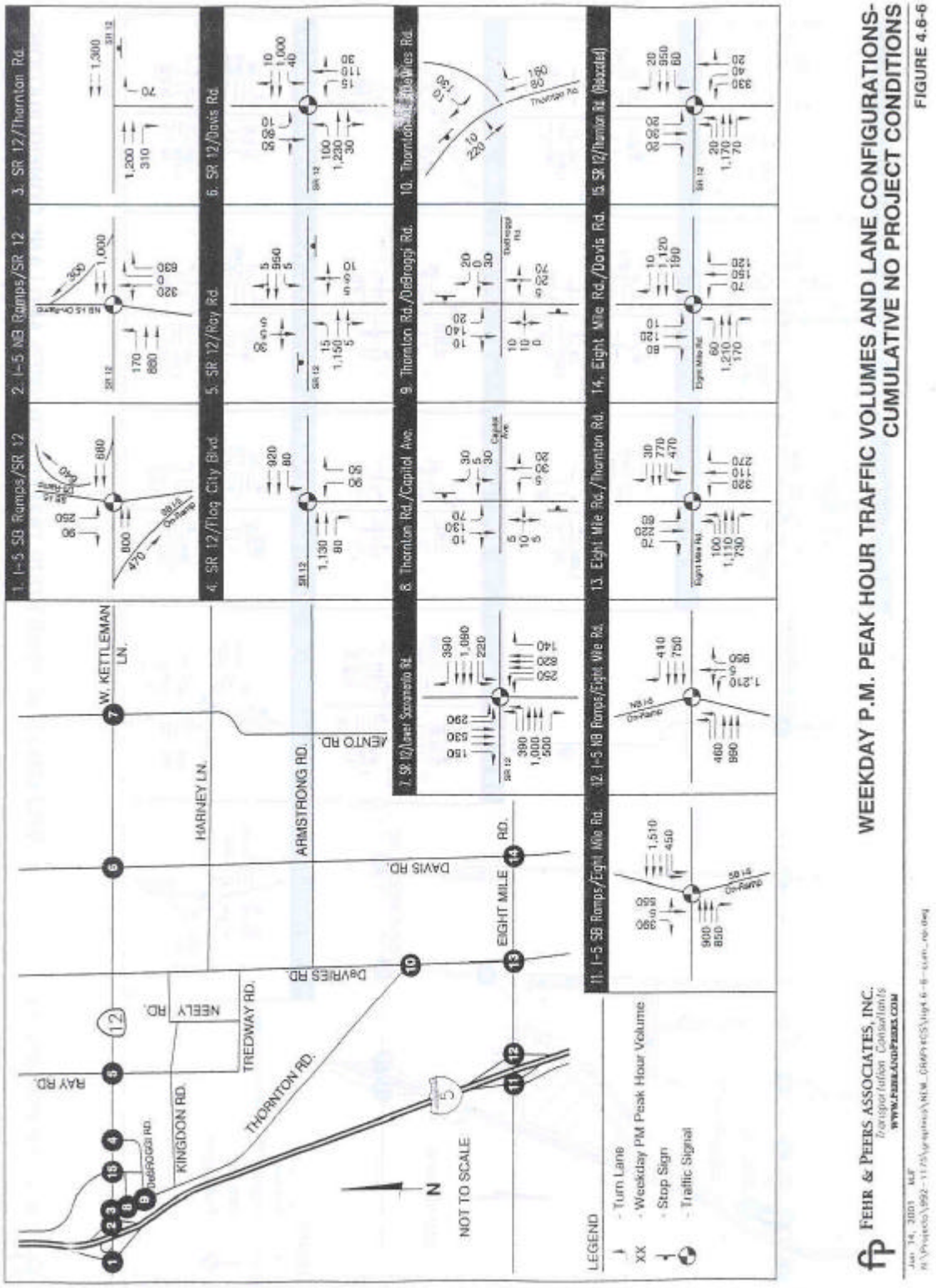


Figure 4.6-7: Cumulative Plus Project Volumes

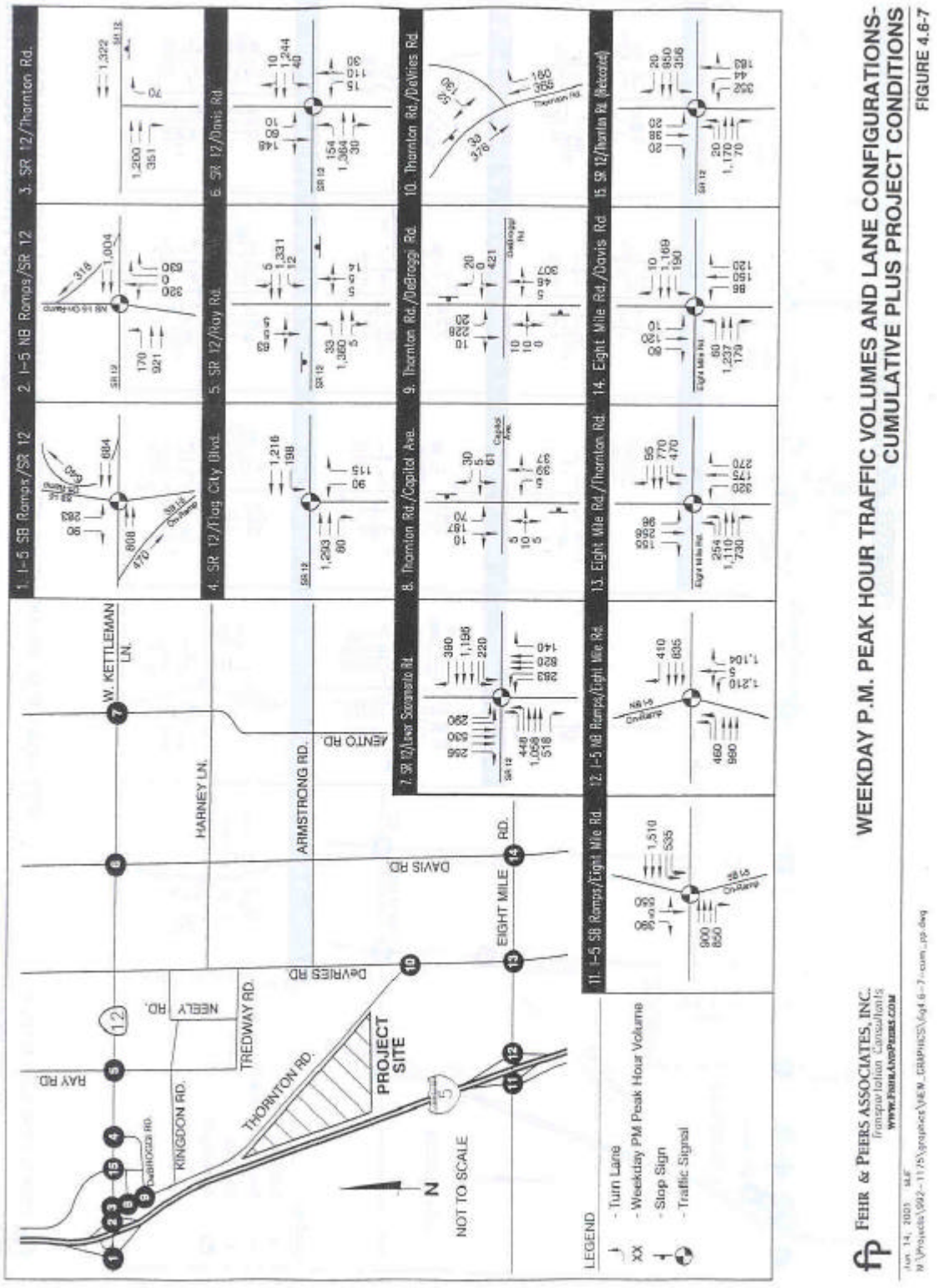


Table 4.6-10

Peak Hour Level of Service – Cumulative Conditions

#	Intersection	Traffic Control	Average Delay (sec/veh) – LOS	
			Cumulative No Project Conditions	Cumulative Plus Project (Scenario 1 – Weekday P.M. Peak Hour)
1	SR 12/I-5 SB Ramps	Traffic Signal	15.4 – B	16.6 – B
2	SR 12/I-5 NB Ramps	Traffic Signal	30.0 – C	30.0 – C
3	SR 12/Thornton Road South	Minor-Street Stop	16.3 – C	16.3 – C
4	SR 12/Flag City Boulevard	Traffic Signal	10.2 – B	15.9 – B
5	SR 12/Ray Road	Minor-Street Stop	> 50 – F	> 50 – F
6	SR 12/Davis Road	Traffic Signal	16.2 – B	23.9 – C
7	SR 12/Kettleman Ln./ L. Sacramento Road	Traffic Signal	33.5 – C	34.5 – C
8	Thornton Road/Capitol Avenue	Minor-Street Stop	11.5 – B	12.5 – B
9	Thornton Road/ DeBroggi Road	Minor-Street Stop	11.1 – B	> 50 – F
10	Thornton Road/DeVries Road	Minor-Street Stop	12.4 – B	31.7 – D
11	Eight Mile Road/I-5 SB Ramps	Traffic Signal	47.4 – D	52.5 – D
12	Eight Mile Road/I-5 NB Ramps	Traffic Signal	43.3 – D	50.7 – D
13	Eight Mile Road/ Thornton Road	Traffic Signal	44.3 – D	48.5 – D
14	Eight Mile Rd./Davis Rd.	Traffic Signal	22.3 – C	22.8 – C
15	SR 12/Thornton Road/Star Street	Traffic Signal	16.8 – B	31.7 – C

Source: Fehr & Peers Associates, 2001.

Notes:
- For intersections with all-way stop-control or a traffic signal, average delay is for all vehicles entering the intersection.
- For intersections with minor-street stop-control, average delay is for vehicles on the minor-street approach only.

Table 4.6-10 shows that the addition of project trips to cumulative no project volumes would result in greater delays at most study intersections and worsen the level of service at the SR 12/Davis Road, Thornton Road/DeBroggi Road, Thornton Road/DeVries Road, SR 12/Thornton Road/Star Street intersections.

ENVIRONMENTAL CONSEQUENCES (IMPACTS) AND RECOMMENDED MITIGATION

Table 4.6-11 describes the significant impacts of the project on the roadway, transit, and bicycle/pedestrian systems. Each impact statement is followed by a mitigation measure intended to reduce the impact to a less-than-significant level.

Table 4.6-11

Transportation and Circulation

Evaluation Criteria	As Measured by	Point of Significance	Impact	Type of Impact[1]	Level of Significance[2]
1. Will the Project cause the existing or cumulative no project LOS at an analysis location within the City of Lodi (i.e., SR 12/Lower Sacramento Road) to worsen from LOS C or better to LOS D or worse?	Delay and LOS	LOS D	Low	--	❍
2. Will the Project cause the existing or cumulative no project LOS at an analysis location within the City of Stockton or unincorporated San Joaquin County (i.e., intersections along Eight Mile Road, Thornton Road, and SR 12) to worsen from LOS D or better to LOS E or worse?	Delay and LOS	LOS E	Medium	P	⊙
3. Will the Project worsen already (or projected) unacceptable operations at an analysis location?	Delay and LOS	LOS D in Lodi; LOS E elsewhere	High	P	⊙
4. Will the Project create an inconsistency with policies concerning roadway systems set forth in the General Plans for the City of Lodi, City of Stockton, and San Joaquin County?	Review of project	Identified inconsistency with policies	Medium	P	⊙
5. Will the Project create the demand for public transit service above that which is provided, or planned to be provided?	Evaluation of transit needs	Projected transit demand that exceeds supply	Medium	P	⊙

Table 4.6-11

Transportation and Circulation

Evaluation Criteria	As Measured by	Point of Significance	Impact	Type of Impact[1]	Level of Significance[2]
6. Will the Project disrupt or interfere with existing or planned public transit services or facilities?	Review of project	Project disrupts transit service	Low	--	❍
7. Will the Project create an inconsistency with policies concerning transit systems set forth in the General Plans for the City of Lodi, City of Stockton, and San Joaquin County?	Review of project	Project disrupts transit service or causes unmet transit demand	Medium	P	⊙
8. Will the Project disrupt or interfere with existing or planned bicycle or pedestrian facilities?	Review of project	Project disrupts pedestrian or bicycle system	Low	--	❍
9. Will the Project create an unmet need for bicycle or pedestrian facilities?	Review of project	Unmet demand for bicycle or pedestrian facilities	Medium	P	⊙
10. Will the Project create an inconsistency with policies related to bicycle or pedestrian systems in the General Plans of the City of Lodi, City of Stockton, and San Joaquin County?	Review of project	Project disrupts bicycle system or causes unmet bicycle demand	Medium	P	⊙

Source: Fehr & Peers Associates, Inc., 2001

1. C: Construction P: Permanent
2. Level of Significance Codes

-- Not applicable

== No impact

● Significant impact before and after mitigation

⊙ Significant impact; less than significant after mitigation

❍ Less than significant impact; no mitigation proposed

The following three alternatives to the proposed project were qualitatively evaluated:

- No Project Alternative – would maintain the existing agricultural uses on the project site and thereby generate no new traffic.
- Alternate Site in Manteca – would consist of the development of the project in the northwest quadrant of the State Route 120/Airport Way interchange in the City of

Manteca. This alternative would maintain the existing agricultural uses on the Lodi site and thereby add no new trips to the surrounding roadways. However, this alternative would add a substantial amount of new traffic to State Route 120 and its interchanges at Airport Way and Yosemite Avenue.

- Sports-Use Only Alternative – would consist of the development of the sports-only components of the project at the City of Lodi site. This would include the soccer/softball/baseball fields, basketball/volleyball/tennis courts, field house, stadium, aquatics complex, and ice rink, but would exclude the office/retail/medical space, dormitory, and hotel. This alternative would generate approximately 60 percent of the traffic of the proposed project.

Impact: 4.6-1. Will the Project cause the existing or cumulative no project LOS at an analysis location within the City of Lodi (i.e., SR 12/Lower Sacramento Road) to worsen from LOS C or better to LOS D or worse?

Analysis: *Less than Significant; All Alternatives*

As shown in Tables 4.6-9 and 4.6-10, the addition of project-generated traffic to existing and cumulative volumes at the SR 12/Lower Sacramento Road (City of Lodi) intersection would not cause the level of service to deteriorate from LOS C or better to LOS D or worse. Therefore, this impact is considered to be less than significant.

Mitigation: No mitigation is required.

Impact: 4.6-2. Will the Project cause the existing or cumulative no project LOS at an analysis location within the City of Stockton or unincorporated San Joaquin County (i.e., intersections along Eight Mile Road, Thornton Road, and SR 12) to worsen from LOS D or better to LOS E or worse?

Analysis: *No Impact; No Project and Alternate Site*

The No Project and Alternate Site alternatives would not impact the study intersections.

Analysis: *Significant; Project*

Potentially Significant; Sports-Use Only Alternative

Based upon the analysis shown in Tables 4.6-9 and 4.6-10, the addition of trips for the Project, when added to background traffic volumes, would cause new impacts at 6 intersections in Stockton/unincorporated San Joaquin County. The intersections that would be impacted, and the reason that the impact is considered significant are documented below:

Intersection	Change in LOS
SR 12/Flag City Boulevard	Level of service would deteriorate from LOS C to LOS F during the weekday p.m. peak hour and Saturday peak hour.
SR 12/I-5 Southbound Ramps	Level of service would deteriorate from LOS C to LOS F during the Saturday peak hour.
Eight Mile Road/I-5 Northbound Ramps	Level of service would deteriorate from LOS B to LOS F during the Saturday peak hour.
Eight Mile Road/Thornton Road	Level of service would deteriorate from LOS C to LOS E during the p.m. peak hour and from LOS B to LOS F during the Saturday peak hour.
Thornton Road/DeBroggi Road	Level of service would deteriorate from LOS B to LOS E during the weekday p.m. peak hour and from LOS A to LOS F during the Saturday peak hour.
Thornton Road/DeVries Road	Level of service would deteriorate from LOS A to LOS E during the Saturday peak hour.

Since the project would worsen operations at these intersections to an unacceptable level, this is considered a significant impact. Since the traffic levels generated by the Sports-Use Only Alternative are unknown, the impact may or may not raise traffic levels to a significant level. No mitigation would be required for the Sports-Use Only Alternative if it is determined to have a less than significant impact.

Mitigation **4.6-2 Intersection Improvements**

SR 12/Flag City Boulevard

Installation of a traffic signal at this intersection would improve operations to LOS C or better under existing plus project conditions. According to the agreement between Flag City and Caltrans, the traffic signal at the SR 12/Flag City Boulevard intersection should be installed by the time the Flag City Development is fully built out or earlier if supported by a traffic signal warrant analysis. Therefore, the following mitigation measure is recommended:

- The project applicant shall fund the installation of a traffic signal at the SR 12/Flag City Boulevard intersection prior to issuance of building permits if a traffic signal is not yet in place. If a traffic signal is already in place (or under construction), the project applicant shall contribute its fair share cost of the signal.

Implementation of this mitigation measure will ensure that a traffic signal is in place at the SR 12/Flag City Boulevard intersection prior to the opening of the project.

SR 12/I-5 Southbound Ramps

Installation of a traffic signal at this intersection would improve operations to LOS C or better under existing plus project conditions for Scenarios 1 and 2. However, installation of a traffic signal at this location would likely also require signalization of the northbound ramps intersection.

The Flag City Development and Caltrans District 10 have an agreement for the financial responsibility of local improvements to SR 12. Under the agreement, Flag City would contribute $80,000 to Caltrans for the installation of traffic signals at the freeway ramps and Caltrans would install traffic signals at the two ramps, Thornton Road, and Flag City Boulevard when warranted by traffic conditions.

Improvements such as those described above may require the preparation of a Preliminary Environmental Engineering Report (PEER) or Project Study Report (PSR) to more thoroughly analyze the right-of-way and environmental impacts, cost, operational benefits, and local circulation impacts of these and other improvements. Therefore, consistent with the mitigation agreement for the Flag City Development, the following mitigation measure is recommended:

- The project applicant shall contribute its fair share cost for future improvements at the I-5/SR 12 interchange.

The project applicant's contribution, combined with previous and pending contributions from other development projects in the area, will provide funding to improve operations at the I-5/SR 12 interchange.

Eight Mile Road/I-5 Northbound Ramps

Installation of a traffic signal at this intersection would improve operations to LOS C or better under existing plus project conditions (assuming a tight-diamond signal timing plan). Due to the close proximity (about 200 feet) of this intersection to the southbound ramps intersection, both intersections would need to be signalized simultaneously. Caltrans typically requires that improvements to the state highway system provide acceptable operations for at least 10 years after construction. Since it is unlikely that acceptable operations could be achieved at the interchange through 2011 with signalization of the ramps and no other improvements, Caltrans may not support such improvements. Therefore, the following mitigation measure is recommended:

- The project applicant shall contribute its fair share cost of improving the I-5/Eight Mile Road interchange.

The project applicant's contribution, combined with previous and pending contributions from other development projects in the area, will provide funding to improve the I-5/Eight Mile Road interchange.

Eight Mile Road/Thornton Road

Installation of a traffic signal at this intersection would improve operations to LOS C under existing plus project conditions. The following mitigation measure is recommended:

- The project applicant shall fund the installation of a traffic signal at the Eight Mile Road/Thornton Road intersection prior to issuance of building permits if a traffic signal is not yet in place. If a traffic signal is already in place (or under construction), the project applicant shall contribute its fair share cost of the signal.

Implementation of this mitigation measure will ensure that a traffic signal is in place at the Eight Mile Road/Thornton Road intersection prior to the opening of the project.

Thornton Road/DeBroggi Road

The project applicant shall realign Thornton Road and reconstruct the Thornton Road/DeBroggi Road intersection as follows:

- Realign the segment of Thornton Road south of DeBroggi Road to be realigned (to the east) to connect with Star Street. Realign the segment of Thornton Road north of DeBroggi Road to "tee" into the realigned Thornton Road-Star Street segment. Install a stop sign on the southbound Thornton Road approach and exclusive turn lanes on the realigned Thornton Road-Star Street segment. This improvement is illustrated on Figure 4.6-8.

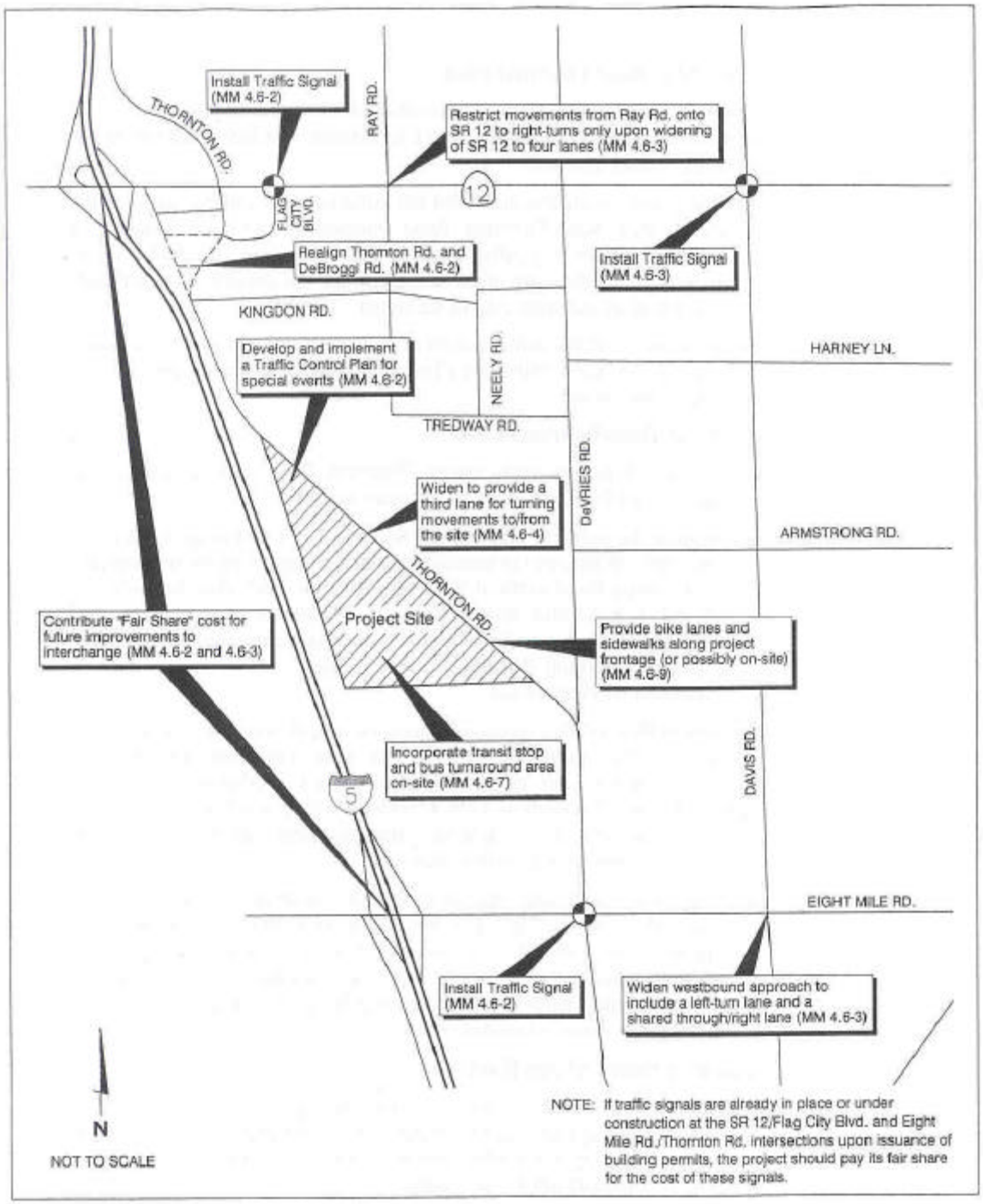
Implementation of this mitigation measure would improve operations to LOS C or better during the weekday p.m. peak hour under existing plus project conditions and cumulative plus project conditions. However, operations would remain at LOS E under existing conditions during the Saturday Special Event. Therefore, the following additional mitigation measure is recommended for this scenario:

- The project applicant shall develop and implement a Traffic Control Plan (TCP) during special events. The TCP shall be reviewed and approved by City of Lodi and San Joaquin County staff prior to implementation. As part of the TCP, a traffic control officer should be situated at the Thornton Road/DeBroggi Road intersection prior to and after special events to control traffic.

Thornton Road/DeVries Road

This intersection would operate acceptably during the weekday p.m. peak hour under existing plus project and cumulative plus project conditions, but unacceptably during a Saturday Special Event. The following mitigation measure is recommended for this impact:

Figure 4.6-8: illustration of Thornton / DeBroggi Road improvements



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MITIGATION MEASURES FOR PROPOSED PROJECT

FIGURE 4.6-8

- During the development of the Traffic Control Plan (TCP), the project applicant should work with San Joaquin County staff to determine if deployment of a traffic control officer is necessary at the Thornton Road/DeVries Road intersection. If deemed necessary, a traffic control officer should be situated at this intersection prior to and after special events to control traffic.

After Mitigation *Less than Significant; Project and Sports-Use Only Alternative*

Impact: 4.6-3. Will the Project worsen already (or projected) unacceptable operations at an analysis location?

Analysis: *No Impact; No Project and Alternate Site*

The No Project and Alternate Site alternatives would not impact the study intersections.

Analysis: *Significant; Project*

Potentially Significant; Sports-Use Only Alternative

Based upon the analysis shown in Tables 4.6-9 and 4.6-10, the addition of trips from the Project, when added to background traffic conditions, would worsen current (or projected) unacceptable operations at 5 intersections in Stockton/unincorporated San Joaquin County. The intersections that would be impacted, and the reason that the impact is considered significant are documented below:

Intersection	Change in LOS
SR 12/I-5 Northbound Ramps	Level of service would deteriorate from LOS E to LOS F during the weekday p.m. peak hour. LOS F operations would be exacerbated during the Saturday peak hour.
Eight Mile Road/ I-5 Southbound Ramps	Level of service would deteriorate from LOS E to LOS F during the weekday p.m. peak hour.
Eight Mile Road/Davis Road	Level of service would deteriorate from LOS E to LOS F during the p.m. peak hour.
SR 12/Ray Road	Would exacerbate LOS F operations during the p.m. peak hour under cumulative conditions.
SR 12/Davis Road	Would exacerbate LOS F operations during the weekday p.m. peak hour and worsen operations from LOS D to LOS F during the Saturday peak hour.

Since the project would worsen operations at these intersections to unacceptable levels, this is considered a significant impact. Since the traffic levels generated by the Sports-Use Only Alternative are unknown, the impact may or may not raise traffic levels to a significant level. However,

since this alternative would allow for the same sporting events at the same capacity, it is likely that the Sports Use Only alternative would exacerbate existing unacceptable traffic levels. If further studies determine that this alternative will have a significant impact, the measures listed below would be necessary to mitigate the impact to a less than significant level. No mitigation is required for the Sports-Use Only Alternative if it is determined to have a less than significant impact.

Mitigation: **4.6-3 Intersection Improvements**

SR 12/I-5 Northbound Ramps

Installation of a traffic signal at this intersection would improve operations to LOS B under existing plus project conditions. However, installation of a traffic signal at this location would likely also require signalization of the southbound ramps intersection. Therefore, similar to Mitigation Measure 4.6-2, the following is recommended:

- The project applicant shall contribute its fair share cost for future improvements at the I-5/SR 12 interchange.

The project applicant's contribution, combined with previous and pending contributions from other development projects in the area, will provide funding to improve operations at the I-5/SR 12 interchange.

Eight Mile Road/I-5 Southbound Ramps

Installation of a traffic signal at this intersection would improve operations to LOS C or better under existing plus project conditions. Due to the close proximity (about 200 feet) of this intersection to the southbound ramps intersection, both intersections would need to be signalized simultaneously. Therefore, similar to Mitigation Measure 4.6-2, the following is recommended:

- The project applicant shall contribute its fair share cost of improving the I-5/Eight Mile Road interchange.

The project applicant's contribution, combined with previous and pending contributions from other development projects in the area, will provide funding to improve the I-5/Eight Mile Road interchange.

Eight Mile Road/Davis Road

The project applicant shall fund the widening of the westbound Eight Mile Road approach to the Eight Mile Road/Davis Road intersection to include an exclusive left-turn lane and a shared through/right-turn lane. Implementation of this mitigation measure would improve operations to LOS D.

SR 12/Ray Road

Traffic levels at this intersection do not meet the traffic signal warrants under existing plus project or cumulative plus project conditions. Therefore, the following mitigation measure is recommended:

- Prohibit left-turn and through movements from Ray Road onto SR 12 at such time that SR 12 is widened to four lanes through the intersection.

Implementation of this mitigation measure would improve operations to LOS C or better.

SR 12/Davis Road

Installation of a traffic signal at this intersection would improve operations to LOS B under existing plus project conditions. Since this intersection currently operates unacceptably and meets the Peak Hour Volume Warrant for a traffic signal, the following mitigation measure is recommended:

- The project applicant shall construct a traffic signal at the SR 12/Davis Road intersection prior to issuance of building permits.

After Mitigation *Less than Significant; Project and Sports-Use Only Alternative*

Impact: 4.6-4. Will the Project create an inconsistency with policies concerning roadway systems set forth in the General Plans for the City of Lodi, City of Stockton, and San Joaquin County?

Analysis: *No Impact; No Project and Alternate Site*

The No Project and Alternate Site alternatives would not be inconsistent with roadway systems policies set forth in agency General Plans.

Analysis: *Significant; Project*

Potentially Significant; Sports-Use Only Alternative

The development of the project would potentially result in on-street parking on Thornton Road. The City of Lodi General Plan requires new developments to provide an adequate number of off-street parking spaces in accordance with City parking standards. Given the uniqueness of this project and the opportunities for shared parking, it is unclear whether adequate parking is available on-site to accommodate typical weekday evening activities and special events. Because the project could potentially conflict with this policy of the City's General Plan, this is considered a significant impact. The Sports-Use Only Alternative has the potential to be significant if parking is inadequate. Additional parking spaces may be provided with the exclusion of the non-sports facilities, however, potential for on-street parking remains if heavy use of the facility should occur and additional parking spaces are not provided. Further studies are needed to determine if a significant impact will occur. If the Sports-Use Only

Alternative results in on-street parking on Thornton Road, the mitigation measure listed below will be required to reduce the significance of this impact. No mitigation is required for the Sports-Use Only Alternative if it is determined to have a less than significant impact.

The development of the project would also require additional turn lanes on Thornton Road. The City of Lodi General Plan requires existing substandard streets to be upgraded as needed to accommodate traffic flow and minimize safety hazards. Development of the project would add over 1,200 peak hour vehicles to Thornton Road, which has substandard lane and shoulder widths. Since the available site plans do not display any improvements to Thornton Road, this is considered a significant impact. The Sports-Use Only Alternative has the potential to be significant if peak traffic rises to levels requiring roadway improvements. If further studies reveal that additional turn lanes are needed on Thornton Road the mitigation measure listed below would be required. No mitigation is required for the Sports-Use Only Alternative if it is determined to have a less than significant impact.

Mitigation **4.6-4 Roadway and Parking Studies and Improvements**

The project applicant shall perform a parking study to determine, to the satisfaction of the City, that adequate on-site parking is provided and that parking is conveniently located throughout the site.

The project applicant shall widen Thornton Road to include a third lane for vehicles turning into and out of the project site. In addition, the applicant shall perform an access and circulation study to determine, to the satisfaction of the City, the specific lane configurations and traffic control requirements on Thornton Road along the project's frontage. The study should also analyze vehicular, pedestrian, and bicycle circulation within the project site.

After Mitigation *Less than Significant; Project and Sports-Use Only Alternative*

Impact: 4.6-5. Will the Project create the demand for public transit service above that which is provided, or planned to be provided?

Analysis: *No Impact; No Project and Alternate Site*

The No Project and Alternate Site alternatives would not increase demand for public transit in Lodi.

Analysis: *Significant; Project and Sports-Use Only Alternative*

Typical weekday activities within the site would attract residents from Lodi and Stockton, some of whom would use public transit, if available, to access the site. Since no transit service is currently provided (or planned in the near future) to the project site, this is considered a significant impact.

Mitigation **4.6-5 Public Transit Service**

The project applicant shall work with Lodi Grapeline Service and the San Joaquin Regional Transit District to establish transit service to the site at such time that expected ridership levels would warrant the service and funding is available.

After Mitigation *Less than Significant; Project and Sports-Use Only Alternative*

Impact: 4.6-6. Will the Project disrupt or interfere with existing or planned public transit services or facilities?

Analysis: *No Impact; All Alternatives*

As described above, there are currently no transit services or facilities available at the project site, nor are there any planned. If transit services or facilities are provided to the project site in the future, they can be planned to be consistent with project improvements.

Mitigation: No mitigation is required.

Impact: 4.6-7. Will the Project create an inconsistency with policies concerning transit systems set forth in the General Plans for the City of Lodi, City of Stockton, and San Joaquin County?

Analysis: *No Impact; No Project and Alternate Site*

The No Project and Alternate Site alternatives would not increase demand for public transit in Lodi, Stockton or unincorporated San Joaquin County.

Analysis: *Significant; Project and Sports-Use Only Alternative*

Typical weekday activities within the site would create the demand for public transit service to the project site. To accommodate transit vehicles, an on-site transit stop with a bus turnaround area would be needed. Since such a facility is not shown on any available project site plans, this is considered a significant impact.

Mitigation **4.6-7 Public Transit Stop**

The project applicant shall incorporate a transit stop with a bus turnaround area within the project site. The transit stop should be constructed with the first phase of development if the project is constructed in phases.

After Mitigation *Less than Significant; Project and Sports-Use Only Alternative*

Impact: 4.6-8. Will the Project disrupt or interfere with existing or planned bicycle or pedestrian facilities?

Analysis: *No Impact; All Alternatives*

As described above, there are currently no bicycle or pedestrian facilities available at the project site, nor are any planned. If bicycle or pedestrian facilities are provided to the project site in the future, they can be planned to be consistent with project improvements.

Mitigation: No mitigation is required.

Impact: 4.6-9. Will the project create an unmet need for bicycle or pedestrian facilities?

Analysis: *No Impact; No Project*

The No Project alternative would not create demand for bicycle or pedestrian facilities along Thornton Road.

Analysis: *Significant; Project, Alternate Site, and Sports-Use Only Alternatives*

Typical weekday activities within the site would create an unmet demand for bicycle and pedestrian facilities along Thornton Road. According to the *San Joaquin County Regional Bicycle Master Plan* (SJCOG, 1994), a Class II bicycle lane (on-street lane with appropriate signing and striping) is planned for Eight Mile Road and a Class III bicycle route (shared lane with vehicles with appropriate signing) is planned for SR 12. Although no bicycle facilities are planned for Thornton Road, the provision of bicycle and pedestrian facilities along the project's frontage would be the first step in establishing a future north-south bicycle lane connection between Eight Mile Road and SR 12. Since such facilities are not shown on any available project site plans, this is considered a significant impact.

Mitigation **4.6-9 Bicycle and Pedestrian Facilities**

The project applicant shall construct a bicycle/pedestrian path linking the north and south portions of the project site to Thornton Road along the project's frontage. Under the alternate site alternative, a Class II on-street bicycle lane shall be constructed on Yosemite Avenue or the primary frontage road to be determined when the site design is finalized.

After Mitigation *Less than Significant; All Alternatives*

Impact: 4.6-10. Will the Project create an inconsistency with policies related to bicycle or pedestrian systems in the General Plans of the City of Lodi, City of Stockton, and San Joaquin County?

Analysis: *Significant Impact; All Alternatives*

As described above, the project will create a demand for bicycle and pedestrian facilities. The General Plans of Lodi and San Joaquin County encourage the provision of bicycle and pedestrian facilities to discourage the use of the automobile. There appears to be no plans for bicycle or pedestrian facilities on the proposed site plan. Therefore, there are not provisions to connect the project site with other planned bicycle and pedestrian facilities in the County and City. There are currently no bicycle or pedestrian policies in the agency General Plans that conflict with the project.

Mitigation **4.6-10 Bicycle and Pedestrian Facilities**

See mitigation measure 4.6-9 above.

After Mitigation *Less than Significant; All Alternatives*

CUMULATIVE IMPACTS

As discussed above for impacts 4.6-2 and 4.6-3, the project will have significant cumulative impacts on Thornton Road and State Route 12. New developments in the area, combined with this project, will unacceptably decrease service levels on these roadways. However, implementation of the mitigation measures listed under impacts 4.6-2 and 4.6-3 would reduce cumulative traffic impacts to a less than significant level.